

DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Assessment

(Water Protection Bureau)

Name of Project: River Rock County Water and Sewer District

Type of Project: Discharge residential strength wastewater to a Infiltration/Percolation cell under the Montana Ground Water Pollution Control System permit program

Location of Project: The site is situated in the Southwest $\frac{1}{4}$ of Section 3, Township 1 South, Range 4 East, or 45°46'44" (45.7789) North latitude and 111°13'24" (–111.2233) West longitude

City/Town: Belgrade

County: Gallatin

Description of Project: This is a new permit for the River Rock County Water and Sewer District wastewater treatment system. The permit authorizes the discharge of treated residential-strength wastewater from 1,192 single family homes, a school, and several retail businesses west of Belgrade. The wastewater will receive treatment in two aerated lagoons prior to discharge to the ground via up to eight Infiltration/Percolation (IP) beds (Outfall 001). The design effluent rate of the treatment system is 374,000 gallons per day.

Discharge is to groundwater, which is classified "Class I" by the Montana Ground Water Quality Standards [Administrative Rules of Montana (ARM) 17.30.1006 (1)]. Class I ground water is suitable for public and private water supplies, culinary and food processing purposes, irrigation, drinking water for livestock and wildlife and for industrial and commercial uses. Applicable water quality standards for Class I ground water are given in ARM 17.30.1006(1)(b). The discharge from the drainfield will contain elevated levels of biological oxygen demand (BOD), total suspended solids (TSS), nitrogen, phosphorus and pathogens.

The permittee is required to monitor the effluent monthly (semi-annually for metals) to ensure ground water is protected. The draft discharge permit grants a source-specific 50-foot ground water mixing zone. The permittee is required to conduct monthly ground water monitoring from four wells (two upgradient and two downgradient from Outfall 001). Ground water monitoring is conducted to insure ground water quality limits are not exceeded. The permit includes a compliance schedule to reduce BOD concentrations. The permit also has provisions for a compliance schedule if the nitrate or *Escherichia coliform* bacteria concentrations exceed the water quality standards in either of the downgradient monitoring wells.

Agency Action and Applicable Regulations: The proposed action is to issue an individual MGWPCS discharge permit to a residential strength wastewater treatment operation and specify effluent limitations, monitoring and discharge reporting requirements. Applicable regulations are the Montana Water Quality Act 75-5-101 *et seq.* Montana Code Annotated (MCA) and the Montana Ground Water Pollution Control System Administrative Rules of Montana (ARM) 17.30.1001 *et seq.*.

Summary of Issues: The purpose of this action is to regulate the discharges of pollutants to state waters from the regulated facility. Issuance of an individual permit will require the facility to implement design practices to prevent pollution of groundwater. The action will have benefits to water quality.

Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts). *Include frequency, duration (long or short term), magnitude, and context for any significant impacts identified. Reference other permit analyses when appropriate (ex: statement of basis). Address significant impacts related to substantive issues and concerns. Identify reasonable feasible mitigation measures (before and after) where significant impacts cannot be avoided and note any irreversible or irretrievable impacts. Include background information on affected environment if necessary to discussion.*

N = Not present or No Impact will likely occur. *Use negative declarations where appropriate (wetlands, T&E, Cultural Resources).*

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N] Discharge will increase moisture in the vadose zone. There are no limiting layers present in the soil profile that would impede continued treatment of effluent discharged from the drainfield. The water bearing formation is shallow and unconfined.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	[N] A source-specific 50-foot mixing zone in ground water with a specific conductance of less than 1,000 $\mu\text{hms/cm}$ (Class I ground water). The permit includes a compliance schedule for reducing discharge concentrations of biological oxygen demand. The permit includes a compliance schedule if water quality limits for nitrate or Escherichia coliform bacteria are exceeded outside of the mixing zone. Water levels in the immediate area range from approximately 50 to 56 feet below the surface.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N] No significant impacts have been determined. The operator has added additional aeration to the treatment cells over the past several years to reduce odors. The compliance schedule for reducing biological oxygen demand should also help to minimize odors.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] No significant impacts have been identified. No major disturbances to vegetation are expected.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N] No significant impacts have been identified. The closest receiving surface water (Ben Hart Creek) is approximately 5 miles down gradient of the discharge location.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] No significant impacts have been identified.
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] No significant impacts have been identified.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] No significant impacts have been identified. The wastewater treatment facility and IP cells are above grade. A fence surrounds the facility to minimize visual impacts. There is little noise or artificial light associated with the system.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed?	[N] No significant impacts have been identified. Transmissivity values indicate a large volume of stored ground water. Ground water levels range from approximately 50-56 feet below the surface. Potential for ground water depletion is minimal.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N] No significant impacts have been identified.

IMPACTS ON THE HUMAN ENVIRONMENT	
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N] No significant impacts have been identified.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] No significant impacts have been identified.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] No significant impacts have been identified. As this is an existing system, no new jobs could be expected to be created.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project	[N] No significant impacts have been identified.

IMPACTS ON THE HUMAN ENVIRONMENT	
create or eliminate tax revenue?	
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] No significant impacts have been identified.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] No significant impacts have been identified.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] No significant impacts have been identified.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] This is an existing facility, there is not likely to be an increase in population as a result of this permit.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] No significant impacts have been identified.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N] No significant impacts have been identified.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N] No significant impacts have been identified.
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N] No significant impacts have been identified.
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[N] No significant impacts have been identified.
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If	[N] No significant impacts have been identified.

IMPACTS ON THE HUMAN ENVIRONMENT	
not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	

23. **Description of and Impacts of other Alternatives Considered:**

- A. No Action: Under the 'No Action' alternative the Department would not issue an individual ground water discharge permit under the Montana Ground Water Pollution Control System administrative rules. The proposed action will have environmental benefits compared to leaving the facility unpermitted.
- B. Approval with modification: The Department has not identified any necessary modifications to grant approval.

24. **Summary of Magnitude and Significance of Potential Impacts:**

Impacts were assessed with the assumption that the facility will comply with the terms and conditions of the permit. Violations of the permit could lead to significant adverse impacts to state waters. Violations of the permit are not an effect of the agency action, because the permit itself forbids such activities. However, the Department has taken steps to ensure that violations do not occur. The terms of the permit have been clarified and modified in response to comments from regulated parties, the public and other agencies. The Department provides assistance to applicants in understanding and implementing the requirements of the permit. The Department also conducts periodic inspections of permitted facilities, and identifies potential problems with design or management practices. If violations of the permit do occur, the Department will take appropriate action under the water quality act. Section 75-5-617, MCA. Enforcement sanctions for violations of the permit include injunctions, civil and administrative penalties, and cleanup orders.

25. **Cumulative Effects**: The issuance of this individual MGWPCS discharge permit has addressed the issue of cumulative effect to ensure water quality standards are met.

26. **Preferred Action Alternative and Rationale**: The preferred action is to authorize the River Rock County Water and Sewer District under an individual MGWPCS Discharge Permit. This action is preferred because the permit program provides a regulatory mechanism for protecting and improving water quality by applying control technology to the source discharge of domestic wastes treated at the existing wastewater treatment facility.

Recommendation for Further Environmental Analysis:

☐ EIS ☐ More Detailed EA ☒ No Further Analysis

Rationale for Recommendation:

27. Public Involvement: This draft EA will be posted on the Department web page: <http://www.deq.state.mt.us/ea.asp>. For copies of the draft EA or to submit comments, write or call the Montana Department of Environmental Quality c/o Dianne Beaman, P.O. Box 200901, Helena MT 59620-0901, telephone (406) 444-3080. Comments will be received for 30-days after the date of the signature below.

The Department maintains a list of persons who have expressed an interest in all environmental water quality related issues. The Department will send a copy of this document to all persons who have submitted their name, address, and telephone number to the Department for the purpose of being included on the water quality interested parties' mailing list.

28. Persons and agencies consulted in the preparation of this analysis:

EA Checklist Prepared By: Eric Regensburger

Eric Regensburger

October 1, 2008

(Name)

Date

EA Revisions and Corrections: As a result of comments received during the 30-day public comment period

Eric Regensburger

Date

Approved By:

Jenny Chambers, Chief,
Water Protection Bureau

Signature

Date